

ANSWER 17 OF 991 MEDLINE on STN

AN 2007098331 MEDLINE

DN PubMed ID: 17297264

TI Neuroprotective effects of growth hormone against hypoxic-ischemic brain injury in neonatal rats: 1H magnetic resonance spectroscopic study.

AU Han Tai Ryoong; Chun Min Ho; Jang Dae Hyun; Kim Ki-Soo; Lim Keun Ho; Cho Hee Jin

CS Department of Rehabilitation Medicine, Seoul National University College of Medicine, Seoul, Korea.

SO Journal of Korean medical science, (2007 Feb) Vol. 22, No. 1, pp. 122-6. Journal code: 8703518. ISSN: 1011-8934.

CY Korea (South)

DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)

LA English

FS Priority Journals

EM 200703

ED Entered STN: 14 Feb 2007

Last Updated on STN: 29 Mar 2007

Entered Medline: 28 Mar 2007

AB Using 1H-MRS, we evaluated the effects of growth hormone (GH) as a caspase inhibitor on hypoxic-ischemic injury in neonatal rat brains. The right common carotid arteries of rats were ligated, allowed to recover for 3 hr, and exposed to 8% oxygen for 2 hr. GH was given just prior to HI insult and animals were divided into four groups: control, intracerebroventricular (ICV), intracerebroventricular/intraperitoneal (ICV/IP), and intraperitoneal (IP). Localized in vivo 1H-MRS and TUNEL staining were performed 24 hr after HI injury. Lipid/N-acetyl aspartate (NAA) and lipid/creatine (Cr) ratios were used as apoptotic markers. Gross morphologic changes at 2 weeks were used to evaluate the effects of GH. The lipid/NAA ratio was lower in the ICV and ICV/IP groups than in the control, and the lipid/Cr ratio was lower in the ICV group than in the control. The number of TUNEL positive cells was decreased in the ICV and ICV/IP groups, and the degree of morphologic change indicative of brain injury was lower in the ICV group and somewhat lower in the ICV/IP group. The degree of morphologic change correlated with the lipid/NAA and lipid/Cr ratios. These findings suggest that GH exerts neuroprotective effects in cerebral hypoxic-ischemic injury.

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ANSWER 898 OF 991 MEDLINE on STN

AN 82072588 MEDLINE

DN PubMed ID: 6118262

TI Intraventricularly injected growth hormone stimulates
somatostatin release into rat hypophyseal portal blood.

AU Chihara K; Minamitani N; Kaji H; Arimura A; Fujita T

SO Endocrinology, (1981 Dec) Vol. 109, No. 6, pp. 2279-81.

Journal code: 0375040. ISSN: 0013-7227.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 198202

ED Entered STN: 16 Mar 1990

Last Updated on STN: 6 Feb 1995

Entered Medline: 22 Feb 1982

AB The effects of GH on the release of somatostatin from the
hypothalamus were assessed by measuring the concentrations of
immunoreactive somatostatin (IRS) in hypophyseal portal blood of
urethane-anesthetized male rats. A significant and dose-related increase
of IRS in hypophyseal portal blood was observed during 20-80 min after a
single injection of rat GH (5 and 25 micrograms) into the third
ventricle. An intraventricular injection of ovine LH or vehicle
alone did not affect IRS values in hypophyseal portal blood. When rat
GH was repeatedly injected into the cerebral ventricle at 75-min
intervals, IRS in hypophyseal portal blood rose following each injection
in a similar pattern with a latency of 30-45 min. These findings suggest
that the release of somatostatin from the hypothalamus is regulated, at
least in part, by GH. Furthermore, in view of the inhibitory
effect of somatostatin on GH secretion, stimulation by
GH of somatostatin release into hypophyseal portal blood may be
involved in the mechanism by which GH regulates its own
secretion.

ANSWER 855 OF 991 MEDLINE on STN
AN 85179301 MEDLINE
DN PubMed ID: 3921349
TI Effects of intraventricular growth hormone
-releasing factor on growth hormone release: further
evidence for ultrashort loop feedback.
AU Lumpkin M D; Samson W K; McCann S M
NC AM-10073 (NIADDK)
HD-07062 (NICHD)
HD-09988 (NICHD)
SO Endocrinology, (1985 May) Vol. 116, No. 5, pp. 2070-4.
Journal code: 0375040. ISSN: 0013-7227.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 198505
ED Entered STN: 20 Mar 1990
Last Updated on STN: 3 Feb 1997
Entered Medline: 30 May 1985

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ANSWER 833 OF 991 MEDLINE on STN

AN 86128890 MEDLINE

DN PubMed ID: 3947008

TI Influence of growth hormone on nasal septal growth in rats.

AU Vetter U; Heinze E; Voigt K H; Pirsig W

SO The Annals of otology, rhinology, and laryngology, (1986 Jan-Feb) Vol. 95, No. 1 Pt 1, pp. 91-3.

Journal code: 0407300. ISSN: 0003-4894.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 198603

ED Entered STN: 21 Mar 1990

Last Updated on STN: 21 Mar 1990

Entered Medline: 21 Mar 1986

AB Growth activity of the rat septal cartilage was evaluated by incorporating radiolabeled sulfate into three areas of the septal cartilage (anterior, central, and posterior). Growth activity of the septal cartilage was determined in normal rats and in hypophysectomized rats treated either with saline or human growth hormone (hGh) injections. Human growth hormone treatment selectively stimulated sulfate incorporation in the posterior area, which is situated anterior to the septoethmoidal junction, whereas sulfate incorporation was not influenced in the anterior and central area by hGh treatment compared to saline treatment. However, both wet and dry weight was significantly increased by hGh treatment compared to saline treatment in hypophysectomized rats.

ANSWER 812 OF 991 MEDLINE on STN

AN 87044838 MEDLINE

DN PubMed ID: 2877535

TI The effects of intranasal insufflation of growth hormone releasing factor analogue GRF 1-29 NH₂ on growth hormone secretion in children with short stature.

AU Borkenstein M

SO Acta endocrinologica. Supplementum, (1986) Vol. 279, pp. 135-8.

Journal code: 0370313. ISSN: 0300-9750.

CY Denmark

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 198611

ED Entered STN: 2 Mar 1990

Last Updated on STN: 3 Feb 1997

Entered Medline: 25 Nov 1986

AB The effects of intranasal insufflation of the synthetic growth hormone releasing factor GRF 1-29-NH₂ on serum growth hormone (GH) were investigated in five healthy prepubertal children with short stature. 100 micrograms/kg/body weight of synthetic GRF 1-29-NH₂, 500 micrograms in 100 microliters water, were insufflated intranasally after careful cleaning of the nose. GRF 1-29-NH₂ induced a prompt rise of serum GH levels with peak values at 15 minutes in all children investigated. Peak serum GH values were 28.3 +/- 12.0 ng/ml (mean +/- SD), range 17.1 - 47.6 ng/ml; delta GH was 27.0 +/- 12.2 ng/ml (mean +/- SD). Serum GH levels were still significantly raised 120 minutes after the insufflation of GRF 1-29-NH₂ (p less than 0.05). No side effects, except for burning of the nasal mucosa in one patient, were observed. The results of this study demonstrate that intranasal insufflation of synthetic GRF 1-29-NH₂ induces a prompt release of GH in otherwise normal children with short stature. Pulsatile intranasal insufflation of GRF 1-29-NH₂ probably could be used for the treatment of some children with GH deficiency due to a defect at a suprapituitary level.

ANSWER 727 OF 991 MEDLINE on STN

AN 90287235 MEDLINE

DN PubMed ID: 2355952

TI Effects of human growth hormone in men over 60 years old.

AU Rudman D; Feller A G; Nagraj H S; Gergans G A; Lalitha P Y; Goldberg A F; Schlenker R A; Cohn L; Rudman I W; Mattson D E

CS Department of Medicine, Medical College of Wisconsin, Milwaukee.

NC 1D31 PE95008-02 (BHP)

SO The New England journal of medicine, (1990 Jul 5) Vol. 323, No. 1, pp. 1-6.

Journal code: 0255562. ISSN: 0028-4793.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(RESEARCH SUPPORT, U.S. GOV'T, NON-P.H.S.)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 199007

ED Entered STN: 24 Aug 1990
Last Updated on STN: 7 Mar 2003
Entered Medline: 20 Jul 1990

AB BACKGROUND. The declining activity of the growth hormone--insulin-like growth factor I (IGF-I) axis with advancing age may contribute to the decrease in lean body mass and the increase in mass of adipose tissue that occur with aging. METHODS. To test this hypothesis, we studied 21 healthy men from 61 to 81 years old who had plasma IGF-I concentrations of less than 350 U per liter during a six-month base-line period and a six-month treatment period that followed. During the treatment period, 12 men (group 1) received approximately 0.03 mg of biosynthetic human growth hormone per kilogram of body weight subcutaneously three times a week, and 9 men (group 2) received no treatment. Plasma IGF-I levels were measured monthly. At the end of each period we measured lean body mass, the mass of adipose tissue, skin thickness (epidermis plus dermis), and bone density at nine skeletal sites. RESULTS. In group 1, the mean plasma IGF-I level rose into the youthful range of 500 to 1500 U per liter during treatment, whereas in group 2 it remained below 350 U per liter. The administration of human growth hormone for six months in group 1 was accompanied by an 8.8 percent increase in lean body mass, a 14.4 percent decrease in adipose-tissue mass, and a 1.6 percent increase in average lumbar vertebral bone density (P less than 0.05 in each instance). Skin thickness increased 7.1 percent (P = 0.07). There was no significant change in the bone density of the radius or proximal femur. In group 2 there was no significant change in lean body mass, the mass of adipose tissue, skin thickness, or bone density during treatment. CONCLUSIONS. Diminished secretion of growth hormone is responsible in part for the decrease of lean body mass, the expansion of adipose-tissue mass, and the thinning of the skin that occur in old age.

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ANSWER 719 OF 991 MEDLINE on STN

AN 90370735 MEDLINE
DN PubMed ID: 2395807
TI Nasal absorption enhancers for biosynthetic human growth hormone in rats.
AU O'Hagan D T; Critchley H; Farraj N F; Fisher A N; Johansen B R; Davis S S; Illum L
CS Department of Pharmaceutical Sciences, University of Nottingham, U.K.
SO Pharmaceutical research, (1990 Jul) Vol. 7, No. 7, pp. 772-6.
Journal code: 8406521. ISSN: 0724-8741.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LA English
FS Priority Journals
EM 199010
ED Entered STN: 9 Nov 1990
Last Updated on STN: 9 Nov 1990
Entered Medline: 9 Oct 1990
AB The effects of several prospective absorption enhancers were assessed on the nasal absorption of biosynthetic human growth hormone (hGH) in the rat. These enhancers function by alternative mechanisms that include enzyme inhibition, reduction in mucus viscosity, and enhancement of membrane fluidity. The levels of plasma hGH achieved were determined by an enzyme-linked immunosorbent assay. The increase in peak height was calculated relative to nasal administration of hGH alone without any enhancers and the relative bioavailability was calculated with reference to subcutaneous injection data. A lysophospholipid, lysophosphatidylcholine, gave the highest peak concentration, with an increase in peak height of 450% and a relative bioavailability of 25.8%. However, the greatest increase in AUC (291%) was achieved with the aminopeptidase inhibitor, amastatin, which gave a relative bioavailability of 28.9%. A mucolytic agent, N-acetyl-L-cysteine, and a transmembrane fatty acid transporter, palmitoyl-DL-carnitine, were also found to promote the nasal absorption of hGH in this model, with relative bioavailabilities of 12.2 and 22.1%, respectively. Bestatin, an enzyme inhibitor, was not an effective absorption enhancer for hGH in this model.

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ANSWER 649 OF 991 MEDLINE on STN

AN 93232169 MEDLINE

DN PubMed ID: 8473411

TI Intranasal administration of human growth hormone (hGH) in combination with a membrane permeation enhancer in patients with GH deficiency: a pharmacokinetic study.

AU Hedin L; Olsson B; Diczfalussy M; Flyg C; Petersson A S; Rosberg S; Albertsson-Wikland K

CS Department of Physiology, University of Goteborg, Sweden.

SO The Journal of clinical endocrinology and metabolism, (1993 Apr) Vol. 76, No. 4, pp. 962-7.

Journal code: 0375362. ISSN: 0021-972X.

CY United States

DT (COMPARATIVE STUDY)

Journal; Article; (JOURNAL ARTICLE)

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 199305

ED Entered STN: 4 Jun 1993

Last Updated on STN: 4 Jun 1993

Entered Medline: 18 May 1993

AB Recombinant human GH (hGH) combined with a permeation enhancer for the nasal mucosa, sodium tauro-24,25-dihydrofusidate (STDHF), was administered intranasally (in) in six patients with classical GH deficiency. Three different doses were tested (0.2, 0.4, and 0.8 IU/kg BW). The concentration of STDHF was 1% in all doses. As a comparison, all patients received a sc injection of hGH (0.1 IU/kg BW). Blood samples were obtained at frequent intervals for up to 8 h (in doses) or 24 h (sc dose) and analyzed for the plasma concentration of hGH. All three i.n. doses gave a rapid increase in hGH with peak maxima (Cmax) at 20-30 min, and a decline to baseline within 2-3 h. In contrast, the sc dose resulted in a Cmax 2-3 h after the injection, followed by a plateau phase for 2-3 h. The baseline was reached 12-14 h after administration. The uptake [area under the curve (AUC)] was considerably lower for all three in doses, i.e. 1.6-3% of the AUC obtained with the sc dose. However, the Cmax varied between 5.7 +/- 1.4% (0.8 IU/kg BW) and 15.8 +/- 2.1% (0.4 IU/kg BW) of the maximal peak with the sc dose. Of the in doses, 0.4 IU/kg BW resulted in the highest AUC and Cmax. A self-rating protocol was also used to estimate nasal sensations for up to 2 h after dosing. All sensations (itching, burning, sneezing, and running of the nose) were transient and tolerable. This study demonstrates that hGH can be administered intranasally in combination with STDHF. The in dosing results in a plasma peak of hGH very similar to the physiological endogenous peak. No side-effects were noted, other than a transient nasal irritation. Therefore, the nasal route for hGH administration offers a more physiological and more convenient alternative to injections for the treatment of GH deficiency.

ANSWER 609 OF 991 MEDLINE on STN

AN 94244084 MEDLINE

DN PubMed ID: 8187318

TI Serum growth hormone (GH) profiles after nasally administered GH in normal subjects and GH deficient patients.

AU Moller J; Lauersen T; Mindeholm L; Hoelgaard A; Ovesen P; Jorgensen J O; Christiansen J S

CS Department of Endocrinology, Aarhus University Hospital, Kommunehospitalet Aarhus C, Denmark.

SO Clinical endocrinology, (1994 Apr) Vol. 40, No. 4, pp. 511-3.
Journal code: 0346653. ISSN: 0300-0664.

CY ENGLAND: United Kingdom

DT (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199406

ED Entered STN: 29 Jun 1994

Last Updated on STN: 29 Jun 1994

Entered Medline: 20 Jun 1994

AB OBJECTIVE: GH-deficient patients are at present treated with daily subcutaneous GH injections. Further improvements in patient compliance and effects of treatment may occur with nasal administration. We have examined the absorption of nasally administered GH in healthy subjects and in GH deficient patients in two separate studies. DESIGN: Healthy subjects and GH deficient patient were examined in the morning after an overnight fast. Twelve IU of GH in a powder containing didecanoyl-L-alpha-phosphatidylcholine as enhancer were administered in the nostrils (6 IU in each nostril) at the beginning of the study in the healthy subjects. The GH deficient subjects received a total of 6 IU GH/m2 intranasally. Blood was frequently sampled for up to 4 hours. Before and after nasal application anterior rhinoscopy was performed. PATIENTS: Eight normal subjects and 7 GH deficient patients. MEASUREMENTS: Serum GH. RESULTS: (mean +/- SD) Mean maximum concentration (Cmax) in the normal group was 57.6 mU/l +/- 36.9 with a mean time to obtain Cmax (Tmax) of 65 +/- 47 min. In the GH deficient group Cmax was 56.1 +/- 26.1 mU/l with a mean Tmax of 45 +/- 15 min. The subjects did not report any major inconvenience during the study. Anterior rhinoscopy did not reveal changes. CONCLUSION: Nasally administered GH is absorbed to a significant degree from the nasal mucosa without obvious untoward effects in the short term. These data encourage further studies with nasal GH administration.

ANSWER 604 OF 991 MEDLINE on STN

AN 94348784 MEDLINE
DN PubMed ID: 8069548
TI Review: clinical opportunities provided by the nasal
administration of peptides.
AU Harris A S
CS Ferring Research, Malmo, Sweden.
SO Journal of drug targeting, (1993) Vol. 1, No. 2, pp. 101-16. Ref: 87
Journal code: 9312476. ISSN: 1061-186X.
CY Switzerland
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LA English
FS Priority Journals
EM 199409
ED Entered STN: 6 Oct 1994
Last Updated on STN: 6 Oct 1994
Entered Medline: 26 Sep 1994
AB Peptides are rapidly being developed as potential new therapeutic agents
and the nasal route is being evaluated as a means of achieving
systemic absorption. Current research in man is being directed at a
number of polypeptides, including calcitonin, growth
hormone releasing hormones (GHRH), insulin, gonadotropin hormone
releasing hormones (GnRH) and vasopressin analogues. The underlying
protective functions of the nose provide anatomical, temporal and
enzymatic barriers to absorption of peptides. The nasal route
is relatively unsuccessful when used for high molecular weight
polypeptides. Penetration enhancers improve bioavailability but are
poorly tolerated. Reproducibility of effect is highly variable, major
contributing factors including the site of deposition and type of delivery
system as well as changes in the mucous secretion and mucociliary
clearance, compounded by the presence of allergy, hay fever and the common
cold in treated subjects. The future potential for this route lies in
development of effective and well tolerated formulations in highly
accurate delivery systems for the chronic administration of peptides,
enabling the replacement of impractical and invasive intravenous
injections in patients on lifelong substitution treatment for various
deficiency states.

> D HIS

(FILE 'HOME' ENTERED AT 09:11:02 ON 03 AUG 2007)

FILE 'MEDLINE, BIOSIS, EMBASE, CAPLUS, SCISEARCH, LIFESCI, CONFSCI'
ENTERED AT 09:11:51 ON 03 AUG 2007

L1 857793 S INTRATHECAL OR INTRACEREBRAL OR LUMBAR OR ICV OR INTRACEREBRO
L2 329797 S GH OR GROWTH HORMONE? OR SOMATOT?
L3 5755 S L1 AND L2
L4 4401 S L1(P)L2
L5 1483730 S STROKE? OR ISCHEMI? OR HYPOXI?
L6 4401 S L3 AND L4
L7 1493 DUPLICATE REMOVE L6 (2908 DUPLICATES REMOVED)

FILE 'MEDLINE' ENTERED AT 09:19:29 ON 03 AUG 2007

L8 53689 S GH? OR SOMATOTROPIN? OR SOMATOTROPHIN?
L9 82531 S L8 OR GROWTH HORMONE?
L10 827 S L9 AND (INTRATHECAL OR INTRACEREBRAL OR LUMBAR OR ICV OR INT
L11 868 S L7
L12 314 S L7 NOT L10

FILE 'USPATFULL, USPAT2' ENTERED AT 09:22:14 ON 03 AUG 2007

L13 13553 S L3
L14 5526 S L13 AND L5
L15 5526 S L13(P)L5

FILE 'MEDLINE, BIOSIS, EMBASE, SCISEARCH, CAPLUS, LIFESCI, CONFSCI'
ENTERED AT 09:24:27 ON 03 AUG 2007

L16 99 S L3 AND L5

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DATE: Friday, August 03, 2007

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<input type="checkbox"/>	L1	GH OR GROWTH HORMONE OR SOMATOTROPHIN OR SOMATOTROPIN	938874
<input type="checkbox"/>	L2	STROKE OR ISCHEMIA OR ISCHEMIC OR HYPOXIC OR HYPOXIA	574186
<input type="checkbox"/>	L3	L2 AND L1	37898
<input type="checkbox"/>	L4	LUMBAR OR INTRATHECAL OR INTRACEREBROVENTRICULAR OR ICV OR INTRAVENTRICULAR OR NASAL OR OLFACTORY OR INTRAPARENCHYMAL	118137
<input type="checkbox"/>	L5	L4 AND L3	5107

END OF SEARCH HISTORY